

SNOWFALL

The snowfall was decidedly light compared with the average amounts for October. Particularly from the central part of the Lake region westward over northern districts almost to the Rocky Mountains there was either no snow or merely negligible amounts, the greater part of the Missouri Valley reporting a few flurries during the final week. From northern New York southwestward to the central Appalachians there was a little snow just after the middle of the month.

From the Rocky Mountain States westward to beyond the Cascade-Sierra crest there was snowfall over considerable areas, though usually only at the higher elevations. This occurred almost wholly during the last fortnight of the month, and was generally of small amount, though there was a monthly fall of 52 inches at Mount Baker Lodge, in Washington.

SUNSHINE AND RELATIVE HUMIDITY

More than the usual amount of sunshine was received over much of the Atlantic Coast States, the upper Mississippi and upper Missouri Valleys and portions of Oklahoma, northern Texas, and southern New Mexico. Less than the normal amount was received in the upper Ohio, central Mississippi, and lower Missouri Valleys. Elsewhere it was generally near the average.

The relative humidity was above the normal in much of the Ohio, the central and upper Mississippi, and lower Missouri Valleys, in portions of the central Rocky Mountains and southern Plateau regions and locally in central Texas and on the Gulf coast. Elsewhere it was generally below the average, but in most sections the departures therefrom were small.

SEVERE LOCAL STORMS, OCTOBER, 1931

The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A revised list of tornadoes will appear in the Annual Report of the Chief of Bureau]

Place	Date	Time	Width of path (yards) ¹	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority
Crawford, Fremont, and Madison Counties, Iowa.	6					Rain and flood	Lowlands inundated; considerable damage to crops, dirt roads, and sewers.	Official U. S. Weather Bureau.
Seneca and Crawford Counties, Ohio.	6					Floods	Crops, roads, and bridges damaged.	Do.
Marshall County, Iowa.	7	12:15 a. m.			\$2,300	Wind	Crops, windmills, and garages damaged.	Do.
Rotan (near), Tex.	7	4 p. m.	1,760		500	Tornado	50 bales of cotton destroyed; 2 persons injured.	Do.
Terre Haute (near), Ind.	7	5:53 p. m.			16,000	Electrical	Dwelling burned and paper mill damaged by lightning.	Do.
Ames, Iowa.	7	P. m.			52,505	do.	Cattle barn at Iowa State College destroyed.	Do.
Fort Mills, S. C.	9	6 p. m.	1,300		4,000	Small tornado	Crops and farm buildings damaged; path 1 mile long.	Do.
Honea Path (near) to Due West (near), S. C.	9	9 p. m.	1,320		6,000	Hail	Much cottonseed destroyed; 150 bales of cotton damaged; path 12 miles long.	Do.
Gramling, S. C.	9	P. m.			2,000	Thunderstorm	Schoolhouse damaged by lightning.	Do.
Shelby County, Iowa.	10	4:30-5 p. m.			25,000	Rain, hail, and wind.	Glass in buildings and greenhouses broken; poultry killed; trees damaged; path 10 miles long.	Do.
Norton, Phillips, and Sheridan Counties, Kans.	10	5:30-7 p. m.	20 mi.			Hail and wind	Corn damaged 90 per cent in places; small farm buildings, implements, and windmills damaged; 2 persons injured; path, 65 miles long.	Do.
Marshall County, Iowa.	10	7-8 p. m.				Rain, hail, wind, and electrical.	Considerable damage to roofs, farm buildings, and trees; poultry killed; electric, power, and telephone services crippled.	Do.
Cloud, Jewell, Republic, and Washington Counties, Kans.	10	8 p. m.	10 mi.		15,000	Violent wind	Damage chiefly to farm buildings, livestock, and telephone lines; path, 40 miles long.	Do.
Bureau, Carroll, and La Salle Counties, Ill.	10	P. m.				Rain and flood	Pavements damaged; railroad beds washed out; basements flooded; crops hurt; some loss of livestock.	Do.
Cass and Pottawatomie Counties, Iowa.	10	do.				Wind and rain	Farm buildings, windmills, and trees damaged; several buildings moved on foundations; 1 person injured.	Do.
Clinton and Jackson Counties, Iowa.	10	do.				Rain and flood	Lowlands inundated; minor railroad washouts; 10 small bridges wrecked; basements flooded.	Do.
Freemont County, Iowa.	11	5:50-10:30 p. m.				Wind	Trees, roofs, and outbuildings damaged.	Do.
Colby (near), Kans.	11	7 p. m.				Hail	Chief damage to corn and other feed crops.	Do.
Shreveport, La. (7 miles southeast).	15	1:50 p. m.			\$500	Tornado	Character of damage not reported; path 3 miles long.	Do.
Gouverneur (near), N. Y.	25				3,000	Thunderstorm	Farmhouse struck by lightning and burned.	Do.
Quincy, Ill.	25	A. m.			1,500	Rain and flood	Basements flooded; sewers and sidewalks damaged; traffic delayed.	Do.
Wyoming (eastern half)	26-29					Wind	Poles blown down; many miles of fences damaged or destroyed; store windows broken in Cheyenne.	Do.
Somerset (near), Tex.	29	4:30 p. m.	1,760		75,000	Tornado	75 oil derricks damaged; minor damage to other property.	Do.

¹ "Mi." signifies miles instead of yards.

RIVERS AND FLOODS

By RICHMOND T. ZOCH

[River and Flood Division, Montrose W. Hayes in charge]

Heavy local rains in Crawford County, Ohio, on the 6th, caused creeks to overflow, doing damage estimated at \$1,200.

The only river flood was in the Grand, in northcentral Missouri. It was of very minor importance and the attendant damage was estimated at only \$100.

Table of flood stages in October, 1931

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM					
Missouri Basin					
Grand:	Feet			Feet	
Gallatin, Mo.-----	20	12	13	24.1	12
Chillicothe, Mo.-----	18	12	14	21.2	13